HEADEXECUTIVES NAMED
(Cont. from page 1)

Mr. W. R. Chandler, the new Executive Vice President, has served Tapline in various executive capacities for the past nine years and has been a vice president of the company since May 16, 1960.

John Noble

Tapline's new President, John Noble, has recently been the company's Associate General Counsel in New York. Before joining Tapline in 1949, he served the United States Government as Assistant General Counsel in the late James Forrestal, Secretary of Defense.

Born in Cambridge, Massachusetts, Mr. Noble holds degrees from Harvard University and the Harvard School of Law. He was admitted to the Massachusetts bar in 1945 and the New York bar in 1951.

A U.S. Navy officer with the rank of Commander during World War II, Mr. Noble served on the staff of Commander Carrier Division Twenty-two in the Pacific.

Arriving in the field April 2, Mr. Noble will be joined by Mrs. Noble and two of their four children—Christopher, 18, and Edith, age 11—in the

THE CRADLE ROW

Badanah

May, daughter of Mr. and Mrs. Mohamed A. Balleh (Ret.)

Beirut

Nida, daughter of Mr. and Mrs. Abdel-Latif N. Ibrahim (P&T)

Lavett I, daughter of Mr. and Mrs. John Hoffman (Comm.)

Ibrahim, son of Mr. and Mrs. Hussein D. Kharbach (P&T)

Buzura, daughter of Mr. and Mrs. Ahmed B. Halabi (Pub. Ret.)

Nida, daughter of Mr. and Mrs. George Nasser (Comm.)

A native of Butte, Montana, Mr. Chandler is a graduate of the University of Washington. His service in the oil industry began in 1938 when he joined the Standard Oil Company of California, later transferring to the California Arabian Standard Oil Company (successor of Amoco) in Saudi Arabia. His pipeline experience also includes service on the wartime CANOL project and with the Standard Oil Company of Alaska.

Mr. and Mrs. Chandler and their two daughters, Barbara and Gail, will continue to reside in Beirut.

HOW A PIPE LINE SPREAD OPERATES

(Cont. from Page 5)

Wrapping machine performs four operations in succession. A layer of tar is applied, then a wrapping of glass fiber material. Another coat of tar is applied, followed by the outer coating of felt. When completed, the pipe is laid in the ditch alongside.

The last two jobs are backfilling the dirt to cover the pipe and fill the ditch, and finally, cleaning up the right-of-way.

14 In backfilling, care is taken to see that a soft dirt cover goes directly on top of the pipe. A soft and deep protective pad of earth is pushed back into the ditch before the wide-buckfiller completes the job. In solid rock areas, earth is hauled from distant locations.

15 The last operation, by no means the least important, is the job of clean up. Pipeline contractors have a theory that a good job of clean up is an excellent job of public relations—both for their own companies and for the pipeline contractors. Pile drivers and hand labor in generous quantity leave a smooth and neat job to be operated on a catalytic cracking plant. (Photo Bureau)

CAPACITY INCREASE PROGRAM: Pages 6-7

TAPLINE OFFERS PROFIT-SHARING PLAN

Employees will be interested to know that coincident with the announcement that new pumping equipment will be installed to increase Tapline's throughput covered elsewhere in this issue, the Company has entered into negotiations with the government of Saudi Arabia for the purpose of exploring the possibilities of increasing its payments to these governments. At recent meetings with officials of the four governments, President John Noble and Tapline's Foreign Relations Manager, W.A. Campbell, declared that the company accepts the principle of fair and equal sharing of the profits.

Since its opening December 2, 1950, Tapline has been operating under a cost or non-profit basis. Under a proposal offered to each of the four governments a tariff would be charged for the transportation of oil from Saudi Arabia to the Mediterranean. Payments are net and the Company from Tapline's operations would be subjected to income taxes in the four countries.

READ ABOUT TAPLINE

CAPACITY INCREASE PROGRAM: Pages 6-7

TURBINE-DRIVEN PUMP

"The different stages of refining crude oil are explained in the last of a three-part series and where he points out the possibilities of new synthetic petroleum products."

Given in Arabic and English, Ayash has given his talents to persons at Sidi Terminal and Beirut. On May 19 he was to start down the Line, commencing at Turf and continuing to Badanah, Bafou, and Qarnab."
IN THE SPOTLIGHT

TURAF Transport Dispatcher Gets 10-Year Service Award

Ten years ago Mohammed B. Sultan drove the group making the preliminary survey for the location of the Trans-Arabian Pipe Line. Today he is Assistant Transportation Dispatcher at Turaf. (Photo by H. E. Cross)

Mohammed B. Sultan received his 10-year service pin in a ceremony held at Turaif with 'Old Faithful,' the international flat-bed truck, which was converted to the Terminal's fire truck about three years ago. The new hose (so successful that similar equipment is planned for use at all pump stations) may do away with drying racks shown above; water proofed hose which use of which will quench these fires.

Class A fires occur in ordinary materials: wood, paper, textiles, rubber and paper products. Class B fires occur in flammable liquids, greases and similar materials. Class C fires occur in live electrical equipment. A non-conductor of electricity must be used to put them out. Carbon dioxide is recommended for fires in delicate controls as it does not leave a residue and cuts down on possible damage to equipment.

Beaming with pride, Mohammed B. Sultan received his 10-year service pin. "Old Faithful," the international flat-bed truck, which was converted to the Terminal's fire truck about three years ago. The new hose (so successful that similar equipment is planned for use at all pump stations) may do away with drying racks shown above; water proofed hose which use of which will quench these fires.

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THE PUMP STATION

HEART OF THE PIPELINE SYSTEM

If you just drive past along the road, a couple of hundred meters away, you hear a soft humming sound. If you go inside the building, the roar is all but deafening.

These are the mighty engines and pumps at Qaisumah, Badanah, Badanah and Turafi. They are the heart of the great pipeline system that moves 325,000 barrels or more of crude oil every day across Saudi Arabia to Sidon.

Their work goes on day in and day out, year in and year out. Without them, not a liter of oil could move through the line.

As in most other petroleum operations, the oil that passes through the pump stations is never seen by the man who operates them and, like a refinery, most of the work is done automatically by the pushing of buttons or the turning of dials at the central control board.

If you just wandered into one of the main pump houses by yourself, your first inclination—as soon as you stepped inside the door—might well be to turn right around and leave. There is no place to sit, no place to talk, no place to write or to eat.

But, if you happened to have a sense like, say, Dudley Harbin at Badanah when he can open a minute, you could get an inkling of what’s going on.

Harbin is station superintendent at Badanah; and, he’ll take you over and introduce you to Ed Wright, the pump house foreman. If you’re like most people, you’ll still be pretty confused when they’ve finished explaining, in spite of the fact that they’re very patient, and even draw pictures for you.

But, you come away with the general impression that something like this happens...

How The Oil Travels

The oil has originated in the producing fields of eastern Saudi Arabia, near the Persian Gulf. It has been pumped through Aramco gathering lines, and has entered the pump house at Qaisumah, the easternmost pump station. Here, it has been boosted along to the first of two booster pumps that kick pressure up from 50 pounds per square inch.

Naturally, this pressure has declined as the miles pass. The general effect of big whirling wheels and singing cylinders, like, say, Dudley Harbin at Badanah when he can open a minute, you could get an inkling of what’s going on.

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How The Surge Tank Works

The surge tank, with 96,000 barrels capacity, serves two purposes: the main one is to allow for expansion and contraction of oil because of temperature changes. During the day, when temperatures rise, the oil in the pipeline expands and has to have some place to go. If it were not for the surge tank, it would rush into the station at an excessive force.

But, the surge tank has a floating roof that rises as the oil expands in the daytime; descends when the oil contracts for a slower rate.

The importance of these tanks is obvious when you realize the great differences in temperature between day and night in eastern Saudi Arabia; averaging 40 degrees, and, during the summer running as much as 70 degrees where there are water rains.

The surge tank’s other purpose is to allow flexibility in handling when a station is, for any reason, moving more oil, or less than the station behind or ahead of it.

A Close Look At The Equipment

So... let’s have a look at that equipment. Each of the three booster pumps is driven by a 200-horsepower electric motor. Each of the five main line pumps is driven by a 1,700-horsepower diesel engine which provides pump speed of approximately 3,000 revolutions per minute.

The pump station is so designed that the operator can control normal operating functions with dials and pushbuttons at the central instrument board. The vertical and horizontal panels are equipped with lights and switches that let him know what’s happening at all times in all parts of the station.

What’s the incoming pressure? The temperature? The outgoing pressure? Which valves are open and which ones closed? Is there overheating anywhere? And so on... the central board gives all the answers.

Lights flash and bells ring if something isn’t working right; and emergency shutdown devices go into action in the event of abnormal conditions which the operator couldn’t anticipate.

The surge tank ships loading at Sidon, remember that there wouldn’t have to use pressure of 3,200 pounds per square inch——and this would be so much that the pipe would have to be as thin and a half thick to withstand the pressure.

And, because of the volume changes, due to temperature variations, it wouldn’t work, even then! So, all things consi—dered, let’s keep on using the pump stations.

** OPERATIONS REPORT **

March       April    Year, 1956

Average BPD received at Sidon 321,894 320,628 320,082
Ships Loaded 71      69     275
Average BPD Loaded on Ships 321,264 320,507 318,182
Average Bbls per Ship 140,414 141,600 140,000
Average BPD delivered to ships and Medreco 320,601 320,313 320,028

** MAIN LINE PUMPS **

Between the valves at right, boost pressure on the oil in stages building from about 50 pounds up to a maximum of about 950 pounds. Speed increases (left) increase by eight times the shaft speed of Augers that power the pumps.

** SURGE TANK **

(the black area behind the pump house) has a floating roof which rises as the oil expands in the daytime and descends when the oil contracts for a slower rate.
An artist's concepts of the 90,000 BPD capacity increase announced recently are shown on these pages. This program is another step to meet the continued challenge of bigger and faster tankers.

The 90,000 BPD capacity increase was made possible by various technical advancements. This resulted in the development of self-contained auxiliary pumping units, which are the heart of the program.

The total cost of the new facilities will be about $14,000,000. The auxiliary pumping units will start arriving in February 1957, and operation at 410,000 BPD is scheduled for January 1, 1958. Construction of supporting facilities, such as housing, shops and utilities, will be carried out during 1956 and 1957.

The major portion of the investment is centered in the pump stations. These are designed as self-contained plants requiring minimum field work. This concept makes possible the early project completion.

The capacity increase will be accomplished by addition of the following facilities:

1. Auxiliary Pumping Units. These will be installed approximately midway between the present stations. (Since these units are the primary item of interest they are discussed in detail under "Auxiliary Pumping Units").

2. Tanks at Rafha, Badanah and Turail. A 180,000 bbl tank will be constructed at each location. Of the floating roof type as used at Sidon, these tanks will provide sufficient storage to permit shutdown of the auxiliary pumping unit on one line side for inspection or minor maintenance without interfering with operation of the other sections of the line.

3. Tanks at Sidon Terminal. Three 180,000 bbl floating roof tanks will be added to provide the increased storage required at higher pumping capacity. They are based on about five days' active storage for the increased capacity.

4. Supplementary Power at Present Stations. After-coolers will be installed on the present pumping engines at all stations. In addition, the pump impellers will be changed to permit operation at optimum efficiency at the higher capacity. It will be necessary to add an auxiliary pumping unit at Turail, which has only two main engines. Also, provision will be made for use of a pipe unit at Badanah when it is not required on a rotating basis to permit periodic overhaul of the other units.

5. Communications System. Supplementary facilities will be provided for remote control of the auxiliary pumping units and to improve communication with mobile equipment operating along the line. These facilities will not replace the present communications but will provide supplementary service required by the capacity increase program. This item requires construction of a tower at each pump station at the locations of the auxiliary pumping units, and at some additional points between Turail and Sidon.

6. Turail Shops. A shop addition at Turail will provide for specialized service required by the portable units. This shop will be set up to receive a complete portable pumping unit on a foundation directly from a special trailer. It will include equipment for testing an overhauled unit before returning it to the trailer for delivery to its next point of use.

7. Housing at Rafha and Turail. One three-bedroom house and one four-room bachelor quarters will be constructed at Rafha. Four three-bedroom houses and one four-bedroom quarters will be added at Turail. In addition, a new ten-room bachelor quarters will be constructed at Turail.

8. Qaryatain. The auxiliary pumping unit at Qaryatain will be installed in a permanent building. This building will also house a power plant, parts storage, work areas, and maintenance auxiliary equipment. It will be pressurized by blowers to keep out dust. Two houses and a combined bachelor quarters, recreation building and dining room will also be added together with the necessary utilities to serve them.

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The expanded Tapline system will present a challenge to us all. Five engine operation at the increased load capacity anticipated even after addition of after-coolers will not provide enough power to maintain maximum allowable pressure out of station except infrequently under very favorable conditions. It is evident from this that normal operation will be at pressures lower than new used. This places a premium on operating efficiency as the line capacity will depend much more on the load capacity and availability of the diesel engines than at present.

**Auxiliary Pumping Units**

The auxiliary pumping units which are the heart of our 90,000 BPD capacity increase program will each consist of four portable units together with the necessary foundations, manifolds and a radio tower. They will be excellent examples of automation, unattended and remote-controlled by radio from the existing pump stations.
WHERE WERE YOU THE NIGHT OF MARCH 16?  

The night of March 16, 1956 will long be remembered by the people of Lebanon. For many Beirutis it had been the usual weekday evening with the early-to-bed tucked into bed, the late moviegoers settling in their seats and others just sitting at home chatting with neighbors and friends. But, at 9:32 p.m., the majority of the city was thrown into a state of terror when the first earth tremor struck.

Heralded by an eerie sound, the crowd milled about the streets. Moviegoers in their seats and others just waiting set down their feet. They were lucky. As the waves danced madly up and down, many Beirutis put their flower vases dancing madly up and down coat buttons and legging straps; watched with disbelief as walls cracking ; and, that was only the beginning. Two more tremors, the latter almost as severe as the earlier one, followed at about 10-minute intervals.

By now, stunned and frightened residents began to pour into the streets. Motorists jounced from their seats sought frantically to escape the downpour that overwhelmed the open fields on the city's outskirts brought LL 100 a head.

California who staffed at the apartment and remained in their bellies, they were in the minority.

Representing the employees of Tapline Beirut, Cheya Nakouzi (Govt. Rel.) presented H. E. President Camille Chamoun with a check for LL 9,367 in aid of the Lebanese earthquake victims. (Photo Sayak)

A small crowd, Mrs. Bob Thompson was the beauty contested and a prize in the competition for the Eggs Day Ball, Tapline Sporting Club, March 16. Contest judges were Mrs. D. T. Pinckney, Mrs. Howard Wells and Mr. J. Thaddeus. Mrs. Thompson and her party raised a total of LL 100 for the club, T. Thompson, of the D. T. Pinckneys on their 33rd wedding anniversary. (Photo Rex)

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...in The News

DOROTHY KEANE GIVES BENEFIT PERFORMANCE

Mezzo soprano Dorothy Keane, wife of Bill Keane, (Arloq, A) was featured in an April 13 benefit performance for the School of Nursing, American University of Beirut, at West Hall.

Mrs. Keane's program ranged from operatic selections (Carmen, Sampson and Dalilah, It Traviata, La Favorita, Cavalleria Rusticana, etc.) to light opera and popular concert numbers. Her pleasing performance brought an ovation that was rewarded at The Desert Song, she was accompanied by Vava van de Mark, a talented pianist.

From San Francisco, California, Mrs. Keane studied with the director of the Pacific Opera Company and during the war performed in three U.S.O. groups that toured service camps and hospitals.

Encouraged in her opera and concert career by her teacher and the director of the San Francisco Opera Company, Mrs. Keane continued her studies in Italy with the director of the La Scala Orchestra of Milan. There she was awarded two scholarships—one with the Teatro Nuove, summer camp of Milan and the other with the Association Lyric Concert Italian.

Though a born New Yorker and the mother of two young

LAKE RAFHA PUTS IN AN APPEARANCE

Canoeling is not one of the pastimes associated with desert pipeline stations. But to Rafha Taplineers, the thrill has come more than once in a lifetime—twice to be exact. Two years ago, a makeshift canoe was built to take advantage of flood waters. On April 16, when two days and nights of rain turned Rafha station into a desert lake, that makeshift canoe had all but been forgotten.

The canoe was spotted, being pushed in all directions by the waves, by Reda Abdul Samad. He quickly took off on his clothes and followed the wandering boat until he caught it. From then on, canoeing across the junkskyt to the office building or papamneme was a common sight. Residents in the four-room bachelor quarters thought they must be living on the seaside, in Beirut or Long Beach.

For two days and two nights rain fell at Rafha—2.16 inches of R. Water accumulated around the station and large lakes developed inside the station between the living quarters, CCC buildings and the industrial area. Some of the lakes were still there in mid-May.

The airport was flooded. Planes landed on the east side of the strip and stayed there, unable to taxi to the hangar on the west side.

Operations were interrupted by the flood, but the station personnel had a wonderful time. "
TAPLINE'S TOP GOLFERS went to Kuwait for the annual MEOIGA tournament. Suntanned and smiling, despite scoring disappointments are TAPLINE'S TOP GOLFERS went to Kuwait for the annual MEOIGA tournament. Suntanned and smiling, despite scoring disappointments are

O. K. Bigelow, Paul Cole, Mrs. Cole, Mrs. H. E. Cross, J. J. Evans, Harold Cross, Mrs. A. C. Nelson, Mrs. Nelson, and Mrs. Bigelow. The UC team walked off with top honors again this year. (Photo Supy.)

COMPANY PLAYERS STAR IN BEIRUT BAL GAME

Bob Thompson, Bronx Putnam and John Hoffman—all Tapliners—were selected to play in the All-Star Game May 6 in- companying softball at Camille Chamoun Field in Beirut.

After the arrival of President Camille Chamoun and party, the master of ceremonies intro- duced the commissioner of the Beirut Softball League, O. H. Gossens, who in turn intro- duced U. S. Ambassador Don- ald Heath.

Purpose of the inauguration ceremonies was to introduce the game officially to Lebanon and to open the field to the local league and allow greater flexibility of season schedules and to open the field to the local league—contending Pan—Ameri—cans.

The John F. Pfisters are

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COMPANY PLAYERS STAR IN BEIRUT BAL GAME

Bob Thompson, Bronx Putnam and John Hoffman—all Tapliners—were selected to play in the All-Star Game May 6 in- companying softball at Camille Chamoun Field in Beirut.

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CAPACITY INCREASE PROGRAM

One van will contain the two-shaft combustion gas turbine and direct-connected centrifugal pump; the second, air filters and coolers; the third, radio equipment and standby power plant; and the fourth, tools, parts and emergency quantities for the transient personnel. The first van will be 50' long, 15' wide and 15' high, will weigh 110 tons and will include the design of the special trailers to be used to move the units back and forth between their operating locations and the maintenance shops at Towat. The second van will be 54' long, 15' wide and 21' high. It will weigh 55 tons. The other two vans will be smaller and lighter.

A simplification which Gowendon, General Electric gas turbine will supply 5000 HP to the pump shaft at 119°F temperature and 2000 feet elevation. The available pump speed will increase approximately five times when each ten degree drop in air temperature. In this type unit turbinor drives a multi-stage axial flow compressor. This compressor is designed to operate at maximum efficiency when a second turbine drives the pump at the speed required for the particular operating conditions. The term “gas” in the name refers to the expanding hot gases which drive the turbinor rather than to the fuel. A variety of fuels can be used, ranging from gas through liquids and even solids in some experimental models.

The auxiliary pumping units will utilize filtered and metered Grade oil taken directly from the main line.

A Byron Jackson single stage centrifugal pump equipped with mechanical seals will be directly driven by the turbine at speeds normally ranging from 4500 to 5500 RPM. The pump will be equipped with mechanical seals which can be replaced without disturbing the entire unit.

Van Pressurized with Filtered Air

The turbine portion of the van will be pressurized with filtered air. The compression of the air will be held under slight negative pressure. These precautions minimize the risk of accumulating premium vapors in the turbine room, where hot surface igniters might ignite them. In addition, the pressurized air flow through the turbine room also serves to remove and keep out dust.

The second van contains the instrument room and equipment to provide filtered air to the combustion gas turbine and for pressurizing the turbine and instrument rooms. Pressurized filtered air supplied to the instrument room provides essential control and ventilation. This van will also contain the batteries, instrument room and operation of D.C. equipment essential to safe startup and shut down and for controlled power supply to the auxiliary units.

The third van will contain the radio equipment and standby power supply. The 45 KVA standby generator will be driven by a Diesel engine. The third van will also contain a storage area for parts and tools, and it also contains facilities for transient personnel on an emergency basis.

Designed for Closed Suction Operation

The auxiliary pump units are designed for closed suction operation. Suction pressure, discharge pressure, discharge pressure controller set point and filtered air temperature to the gas combustion turbine will be transmitted to the controlling pump station by radio which will be possible to start and stop the units by radio as well as by local means. The radio system will also permit the operator at the controlling pump station to observe the status of the units and pump rooms or pump rooms as desired. Safety devices will shut the units down automatically in the event of excessive vibration, high bearing temperatures, low suction pressure, high discharge pressure, indications of fire, or other comparable items.

The suction and discharge valves will have piston operators utilizing main line oil pressure as the power source. These valves will automatically close whenever the units shut down. This minimizes the potential fuel supply in the event that shutdown was due to some cause which might result in fire. This is a base requirement for unattended pumps.

Operation Safe Without Communications

The radio system will normally operate continuously; however, radio cannot be depended on for communications. Should it be necessary to dispatch proper maintenance personnel to correct the trouble.

T.S.C. ANNOUNCES VARIOUS EVENTS

Erie Youkum won over S. Meridian in the finals of the Tapline Sporting Club billiard single in which 16 players participated. Doubles were also played off May 11 and 19. This marks the first doubles tournament to be played at the club.

Burka Sarkisian, chairman of the T.S.C. sports committee, has released a calendar of other events for May and June and has requested that members of the club participate in the mixed doubles.

A volleyball game, scheduled for May 25, will pit the East against the Riders, and also feature a women’s single to compete in the mixed doubles.

A sports Festival, highlighted by the presentation of awads and a final ball, is to be held for June.

A playground for children with see-saw, sand pit, slide, swings, will be ready at the Tapline Sporting Club by early summer.

T.S.C. SCHEDULE OF EVENTS

June

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
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<tbody>
<tr>
<td>2</td>
<td>Summer Ball, 9 p.m.</td>
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<tr>
<td>5</td>
<td>Bingo, 8 p.m.</td>
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<tr>
<td>12</td>
<td>Bridge Party, 8 p.m.</td>
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<tr>
<td>14</td>
<td>Bingo, 8 p.m.</td>
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<tr>
<td>19</td>
<td>Bingo, 8 p.m.</td>
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<tr>
<td>23</td>
<td>Moonlight Swimming, 6 p.m.</td>
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<tr>
<td>26</td>
<td>Bingo, 8 p.m.</td>
</tr>
<tr>
<td>30</td>
<td>Curtain Dinner, 9 p.m.</td>
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</tbody>
</table>

Note: Employees in Saudi Arabia are reminded that facilities of the Tapline Sporting Club are at their disposal whenever they are in Beirut.

Employees will be kept informed of all further events in the capacity increase program — Ed.

TAPLINE DELEGATES ATTEND SOCIAL WELCOME CONFERENCE

Delegates from Tapline and Aramco attended the United Nations Social Welfare Seminar in Amman, Jordan, May 16-25. The meeting, fifth of its kind, was organized by the Arab League and drew hundreds of delegates from all member countries as well as guest speakers and observers from throughout the Middle East.

Joseph W. Breidi (Ind.Rel.) represented Tapline and Saleh Al-Assad (Pub. Rel.) attended several seminars as an observer. Janet Garbushian (Ind. Rel.) served as secretary for the delegation which also included four Arab men.

The large number of participating groups of 14 members. Each

5000 THTANKER CLEARED THROUGH SIDI PORT

On June 18, Sidon Terminal cleared its 5,000th tanker when the S. T. S. T. PETERSSEN was the second ship loaded at Tapline’s terminal in Sidon, Lebanon. The loading of the 5,000th tanker was placed in operation Dec. 2, 1950.

Belonging to the California Transport Corporation fleet, the S. T. S. T. PETERSSEN was the second ship loaded at Tapline’s terminal after the 5,000THTANKER CLEARED THROUGH SIDI PORT

Page 12 PIPELINE PERISCOPE

COMPANY OFFERS TRAINING PROGRAM FOR SUPERVISORS

A briefing and development program for Tapline supervisors in Amman, Syria and Jordan was inaugurated for inauguration June 20 at the Tapline Sporting Club, Beirut. According to an announcement by the Industrial Relations Department, Mr. W. R. Chandler, Executive Vice President, would address the 15 participants at the opening session.

The conference method of training, instruction will be under way in a short period. Mr. W. R. Chandler, Executive Vice President, would address the 15 participants at the opening session.

The seminars aimed at developing potential leaders, developing desirable qualities, effective discretionary and group skills, handling human relations problems, supervising with tact, communicating, administering wages and salaries and company benefit plans. The latter topics will be discussed by Mr. W. R. Chandler, Executive Vice President, and Mr. J. W. Breidi, Ind. Rel. In addition, a series of related seminars and workshops will be conducted.

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